

**REMARKS**

Claims 1 - 32 are currently pending. Claims 1 and 19-26 have been amended to more clearly and distinctly claim the invention. The specification was amended to correct inadvertent typographical errors. No new matter is entered into the application by the amendment.

In the Office Action, the Specification was objected to for informalities. Claim 19-26 were rejected under 35 U.S.C. §112 second paragraph. Claims 1-4, 6-12, 14-15, 17-18, 22, 26-29, and 31-32 were rejected under 35 U.S.C. §102(b) as being anticipated by EP application No. 461,774 to Kapuscinski. Claims 1-5, 7, 26-28, and 31-32 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,135,996 to Mishra. Claims 13,16, 19-21, and 23-25 were rejected under 35 U.S.C. §103(a) as being unpatentable over the EP '744 application in view of U.S. Patent No. 6,869,919 to Ritchie. Claim 30 was rejected under 35 U.S.C. §103(a) as being unpatentable over the EP '744 application in view of U.S. Patent No. 4,632,769 to Gutierrez.

The foregoing objections have been addressed by Applicant as discussed in detail in the following remarks. Each of the rejections is respectfully traversed and favorable reconsideration is requested in view of the above amendments and following remarks.

**I. Specification Objections**

**A. Informalities Regarding Use Of The Word "Contains" On Page 6, Line 11**

Pursuant to the Examiner's recommendation, Applicants have amended the Specification to eliminate the letter "s" from the end of the term "contains" at page 6, line 11 of the Specification, thereby obviating the objection.

**B. Mis-spelled Words In The Specification**

Corrections to pages 8, 9, and 11 to correct misspelled words is set forth in the amendment to the specification and is believed to overcome the objection.

**II. Claim Rejections Under 35 U.S.C. §112, Second Paragraph**

With regard to the Examiner's rejection of claim 26, Applicant asserts that claim 26 describes a complete method that includes the process step of "grafting a reactant . . . onto a polymer backbone." The grafting step defined in claim 26 is sufficient and requires no substantial

intermediate step. As the Examiner is no doubt aware, method claims may include a minimum of one step.

With regard to claims 19-25 and the phrase “a sufficient amount of the graft polymer,” Applicant has amended the claims so that the term “sufficient” in each of the referenced claims has been repositioned and modified by additional terms in order to better define what a “sufficient amount” is in the context of each separate claim.

**III. Claims 1-4, 6-12, 14-15, 17-18, 22, 26-29, and 31-32 Are Patentably Distinguished Over the Cited Reference.**

Independent claims 1 and 26 require a reaction be conducted in the absence of an epoxy reactant. Processes for making the graft copolymer is described in the specification on page 11 beginning at line 19. Since the reaction product of p-aminodiphenylamine or p-alkylaminodiphenylamine with glycidyl methacrylate has been deleted from the claims, there is no reaction that includes an epoxy reactant.

In contrast to the claimed invention, the ‘744 EP Patent requires that the additive disclosed therein include a polymer backbone grafted either to an unsaturated epoxide or be reacted with a product formed from an unsaturated epoxide. In order for the ‘744 EP Patent to anticipate the claims, each element of the claims must be found in the reference. In this case, since the claims require a reaction devoid of an epoxy reactant, all of the elements of the claims are not taught, suggested or disclosed by the ‘744 EP Patent. Reconsideration and allowance of claims 1 and 26 are hereby requested.

Dependent claims 2-4, 6-12, 14, 15, 17, 18, and 22 depend from independent claim 1, and contain additional important aspects of the invention. Therefore, dependent claims 2-4, 6-12, 14, 15, 17, 18, and 22 patentably define over the ‘744 EP Patent for the same reasons claim 1 is patentable over the ‘744 EP Patent.

Dependent claims 27-29 and 31-32 depend from independent claim 26, and contain additional important aspects of the invention. Therefore, dependent claims 27-29 and 31-32 patentably define over the ‘744 EP Patent or the same reasons claim 1 is patentable over the ‘744 EP Patent. Reconsideration and allowance of dependent claims 2-4, 6-12, 14, 15, 17, 18, 22, 27-29, and 31-32 are respectfully requested.

**IV. Claims 1-5, 7, 26-28, and 31-32 Are Patentably Distinguished Over the Cited Reference.**

In the rejection of claims 1-5, 7, 26-28, and 31-32, the '966 patent is cited. The '996 patent describes a process for making a VI improver that requires reacting ethylene with a second olefin and a third reagent so that the third reagent is "incorporated into the polymer chain" during the reaction. See column 2, lines 56-59 of the '966 patent. Since all of the reagents are reacted in a one step process of the '966 patent, there is no separate step of providing a polymer backbone onto which specific groups are grafted as called for in claims 1 and 26. Since the '966 patent fails to teach suggest or disclose all of the elements of the claimed invention, claims 1 and 26 are patentable over the '966 patent.

Dependent claims 2-5 and 7 depend from independent claim 1, and contain additional important aspects of the invention. Dependent claims 2-5 and 7 patentably define over the '966 Patent for the same reasons claim 1 is patentable over the '966 patent.

Dependent claims 27-28, and 31-32 depend from independent claim 26, and contain additional important aspects of the invention. Dependent claims 27-28 and 31-32 patentably define over the '966 Patent for the same reasons claim 26 is patentable over the '966 patent. Reconsideration and allowance of dependent claims 2-5, 7, 26-28, and 31-32 are respectfully requested.

**V. Claims 13, 16, 19-21, and 23-25 Are Patentably Distinguished Over the Cited References.**

In the rejection of claims 13, 16, 19-21, and 23-25, the '744 EP Patent is cited in view of US Patent No. 6,869,919 to Ritchie, et al. Claims 13, 16, 19-21, and 23-25 depend from claim 1 and are patentable over the '744 EP Patent for the same reasons claim 1 is patentable over this reference. The deficiencies of '744 EP Patent to provide all the elements of the claimed invention are described at length above with regard to independent claim 1. Such discussion is incorporated by reference thereto with respect to the rejection of claims 13, 16, 19-21, and 23-25.

The '919 patent is cited with respect to the exhaust gas recirculation limitation and/or soot reduction of claims 13, 16, 19-21, and 23-25 and does not teach, suggest or disclose a grafted polymer made in the absence of an epoxy reactant. Accordingly, the '919 patent does not compensate for the deficiencies of '744 EP Patent to provide all of the elements of the claimed

invention. Hence, the combination of references fails to provide all the elements of the claimed invention. Thus, claims 13, 16, 19-21 and 23-25 patentably define over the '744 EP Patent in view of the '919 Patent. Reconsideration and allowance of dependent claims 13, 16, 19-21, and 23-25 are respectfully requested.

**VI. Claim 30 is Patentably Distinguished Over the Cited References.**

Claim 30 depends from claim 26 and is patentable over the '744 EP Patent for the same reasons claim 26 is patentable over this reference. The above discussion of the patentability of claim 26 over the '744 EP Patent is incorporated by reference thereto in the discussion of the patentability of claim 30. The deficiencies of the '744 EP Patent to provide all the elements of the claimed invention are not cured by the combination with US Patent No. 4,632,769 to Gutierrez.

The '769 patent is cited solely for the purpose of describing the use of an extruder or masticator for conducting the reaction between a non-aryl amine and the polymer backbone. There is nothing in the '769 patent that teaches, suggests or discloses conducting the reaction with the specific amine compounds claimed. The aromatic hindered amines of the '744 EP Patent are dramatically different and lead to different products with different properties than the products made with the alkylene polyamines of the '769 patent. The '744 EP Patent does not suggest conducting a reaction other than the one or two step process described. Reaction processes conducted with hindered amines would be expected to be different than reaction processes conducted with alkylene polyamines. Accordingly, there is no suggestion in either reference to conduct the process as claimed in claim 30. Accordingly, reconsideration and allowance of dependent claim 30 are respectfully requested.

**CONCLUSION**

Applicants assert that the claims of the present application patentably define over the prior art made of record and not relied upon for the same reasons as given above. Applicants respectfully submit that a full and complete response to the office action is provided herein, and that the application is now fully in condition for allowance. Action in accordance therewith is respectfully requested.

Application No. 10/755,015

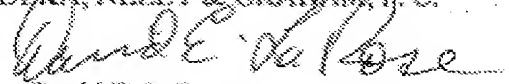
Docket No. EI-7616

In the event this response is not timely filed, Applicants hereby petition for the appropriate extension of time and request that the fee for the extension along with any other fees which may be due with respect to this paper be charged to our **Deposit Account No. 12-2355.**

Respectfully submitted,

LUEDEKA, NEELY & GRAHAM, P. C.

By:



David E. LaRose

Reg. No. 34,369

Date: December 8, 2006